

ABSTRACT OF THE DISCLOSURE

A logic apparatus comprises a first single-electron device formed of a first conductive island, two first tunnel barriers with the first conductive island interposed, first and second electrodes, and a first charge storage region, and a second single-electron device formed of a second conductive island, second tunnel barriers with the second island interposed, third and fourth electrodes, and a second charge storage region, the first electrode of the first single-electron device being connected to the third electrode of the second single-electron device being connected to each other.